Claims

1. A method for screening patients to determine their ability to respond to a tumor treatment, said method comprising:

- measuring the expression level of at least one of the genes predictive for said treatment in patient samples; and
- comparing the result of measurement to the result obtained with a reference sample.

2. A method as in claim 1, wherein patients are patients suffering from tumor.

3. A method as in claim 2, wherein patients are patients suffering from melanoma cancer.

4. A method as in claim 3, wherein the tumor treatment includes IFN-α or one of its derivatives.

5. A method as in claim 4, wherein gene expression is measured directly by DNA analysis with a DNA probe specific to at least one of the genes predictive for said treatment or by determination of the level of mRNA transcription or by determination of the level of gene product.

6. A diagnostic test for carrying out the method claimed in 1, comprising

- contacting a matrix with probes with a liquid phase containing antibodies or nucleic acid probes
- detecting gene transcription or product of one of the genes predictive for the tumor treatment.

7. A diagnostic test as claimed in 6, wherein the matrix comprises nucleic acids and the liquid phase contains target nucleic acid probes.

8. A diagnostic test as claimed in 6, wherein the matrix comprises target protein probes and the liquid phase contains antibodies.

9. A diagnostic kit for the method as claimed in 1 comprising a container with a matrix with probes.

10. A diagnostic kit as claimed in 9 comprising a container with a matrix with nucleic acid probes.

11. A method for screening the availability of cells or tissues to be sensitive or resistant to tumor treatment, said method comprising the identification of gene expression profiles characteristic of said treatment.

12. A method as in claim 11, wherein the cells originate from cell lines.

13. A method as in claim 11, wherein the cells originate from tumor cell lines.

14. An immunological marker enabling the selection of cells responding to a tumor treatment characterized in that it is an antibody specific for product of one or more of the genes predictive for said treatment.

15. A method for determining in a patient sample originating from a tumor, the presence or absence of expression of a gene predicative for treatment of the tumor with IFN-α or a pegylated IFN-α conjugate, said method comprising:

(a) obtaining from a patient having a tumor, a sample containing cells originating from the tumor; and

(b) detecting in the patient sample the expression of the gene,

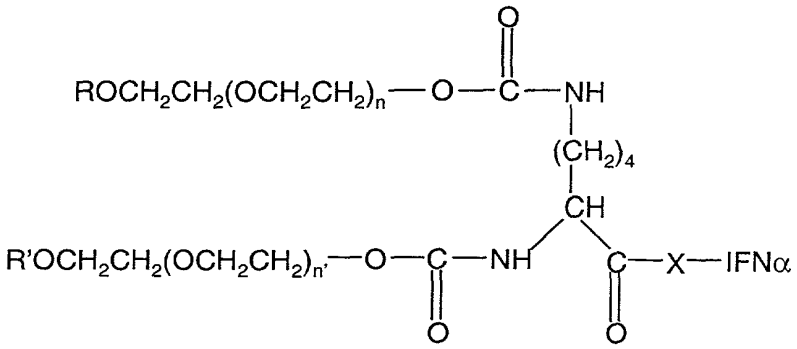
wherein the presence of expression of the gene is predicative of the patient having an ability to respond to the treatment of the tumor using IFN-α or a pegylated IFN-α conjugate.

16. A method as in claim 15, wherein the tumor is ovary cancer, prostate cancer, breast cancer, colon cancer, liver cancer, stomach cancer or lung cancer.

17. A method as in claim 16, wherein the patient sample is prepared from blood, urine, serum, lymph node, bone marrow, cell extracts or tissue extracts.

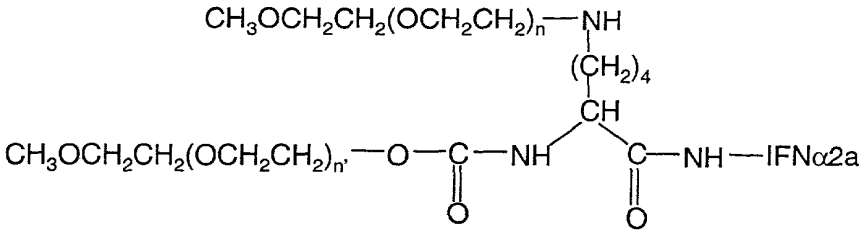
18. A method as in claim 17, wherein the sample contains melanoma cells.

19. A method as in claim 18, wherein the pegylated-IFN-α conjugate has the formula:



wherein R and R' are independently lower alkyl; X is NH or O; n and n' are integers having a sum of from 600 to 1500; and the average molecular weight of the polyethylene glycol in said conjugate is from about 26,000 Daltons to about 66,000 Daltons.

20. A method as in claim 19, wherein the pegylated-IFN-α conjugate has the formula:



wherein n and n' are independently 420 or 520.

21. A method as in claim 20, wherein the gene is at least one gene selected from the group consisting of S75415, M32053, X16665, and D00597.